# BRIGADE SUPPORT AREA PROTECTION

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MASTER OF MILITARY ART AND SCIENCE

BY

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This study investigates how doctrine addresses Brigade Support Area (BSA) Protection. Using the battlefield operating system framework (Intelligence, Maneuver, Fire Support, Air Defense, Engineer, Combat Service Support, and Battle Command) the study reviews significant events during six rotations at the National Training Center, and determines if doctrine existed, was it used, and if it worked.



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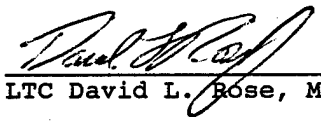

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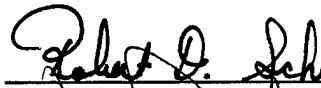

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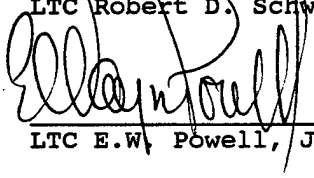

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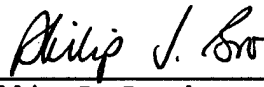

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## ABSTRACT

BRIGADE SUPPORT AREA PROTECTION by Maj Anthony J. Robinson, USA 65 pages.

This study investigates how doctrine addresses Brigade Support Area (BSA) Protection. Using the battlefield operating system framework (Intelligence, Maneuver, Fire Support, Air Defense, Engineer, Combat Service Support, and Battle Command) the study reviews significant events during six rotations at the National Training Center, and determines if doctrine existed, was it used, and if it worked.

TABLE OF CONTENTS

## List of Abbreviations

ALLMIS Army Lessons Learned Information System

AXP Ambulance Exchange Point

BDA Battle Damage Assessment

BSA Brigade Support Area

BCOC Base Cluster Operations Center

BOS Battlefield Operating System

CALL Center for Army Lessons Learned

CAS Close Air Support

CP Command Post

DISCOM Division Support Command

FLE Forward Logistics Element

FLOT Forward Line of Own Troops

FSB Forward Support Battalion

IPB Intelligence Preparation of the Battlefield

LP/OP Listening Post/Observation Post

METT-T Mission, Enemy, Terrain, Time and Troops

MSR Main Supply Route

MST Maintenance Support Team

MTOE Modified Tables of Organization and Equipment

NBC Nuclear, Biological, and Chemical

NTC National Training Center

OPFOR Opposing Forces

OR Operational Readiness

SEE Small Engineer Excavator

SOP Standing Operating Procedures

TAI Targeted Area of Interest

TCF Tactical Combat Force

TSOP Tactical Standing Operating Procedures

TTP Tactics, Techniques, and Procedures

# CHAPTER 1

# INTRODUCTION

## Purpose of the Study

As a combat service support analyst with the Center for Army Lessons Learned (CALL), I have participated in over a dozen National Training Center rotations. During most of these rotations, I have watched as brigade support areas (BSA) were attacked and overwhelmed by advancing enemy forces. In all cases, the BSA suffered significant casualties and major damage to equipment. I seek to understand how the forward support battalion plans, prepares, and executes its defense.

## Background

The Forward Support Battalion of the heavy Division Support Command (DISCOM) deploys to the maneuver brigade sector of the battlefield to provide dedicated combat service support in the form of direct support (DS) logistics to the maneuver brigade. It performs this battlefield mission in the brigade support area. Brigade support areas are positioned far forward in the supported maneuver brigade's sector, to efficiently and effectively provide this sustainment effort. The brigade support area must be able to provide some degree of protection for itself in order to survive the lethality of today's battlefield. Offensive combat operations and the mobile defense may involve tactical movement that may necessitate bypassing platoon-size enemy forces. These enemy forces may infiltrate to attack rear areas. Enemy deep operations may also seek to disrupt the friendly commander's operational tempo by attacking his logistics base of operations. The brigade support area has extremely limited organic assets to protect itself from

enemy mechanized forces or enemy air interdiction. It has no organic antitank or air defense capabilities at its disposal. At the National Training Center at Fort Irwin, California, brigade support areas are overrun by enemy forces with alarming frequency. How then does doctrine address the issue of brigade support area survivability? Is doctrine working?

The maneuver brigade is doctrinally responsible for its rear area. This includes the brigade support area. The forward support battalion S3 and brigade S3 coordinate efforts for this responsibility. FM 71-100, Division Operations, describes the employment of a tactical combat force (TCF) to protect the division rear area.[1] This technique is briefly discussed in FM 71-3, Armored and Mechanized Infantry Brigade, the premier doctrine for the heavy maneuver brigade. However, it has emerged at the NTC as an efficient method to protect brigade rear areas.

The TCF's sole mission is to defend the rear area, it cannot be committed to other combat missions. The dilemma is that a TCF reduces the brigade's combat power for the pending battle. Many brigade commanders assume risk by not designating a TCF. Factors of Mission, Enemy, Terrain, Time and Troops (METT-T) influence a brigade commander's decision to designate a TCF.

Throughout the study, the term AirLand Battle doctrine will be emphasized. Although the term AirLand Battle has been deleted from the 1993 version of FM 100-5, Operations, most Army field manuals have not been updated to be in accordance with the new FM 100-5.

## Assumptions

The first assumption is that present and future Army budgets will not allow changes to forward support battalion modified tables of organization and equipment (MTOE) to add armor-defeating and air defense weaponry to the forward support battalion.

The second assumption is that present and future Army budgets will not tolerate changes to forward support battalion modified tables of organization and equipment (MTOE) to add crewman for armor-defeating weaponry.

The third assumption is that the ability of the units in the brigade support area to defend themselves can be measured in quantifiable and/or qualitative terms.

The fourth assumption is that the ability of threat response forces can be measured in quantifiable and/or qualitative terms.

## Significance of the Problem

The FSB is the lifeblood of its supported maneuver brigade. Destruction of the FSB eliminates the ability of the heavy brigade to sustain combat operations. Through my research, perhaps I can help change or improve logistical and/or maneuver doctrine to increase the survivability of the brigade support area.

## Interest in the Problem

This study should be of interest to the commanders and staff elements of forward support battalions, heavy maneuver brigades, and heavy divisions. Useful lessons learned, tactics, techniques, and procedures (TTP) will be presented.

## The Primary Research Question

Is current doctrine sufficient to provide adequate protection for the forward support battalion in the brigade support area?

## The Hypothesis

My hypothesis is that current doctrine is adequate for protection of the forward support battalion in the brigade support area.

## Approach to the Problem

The current forward support battalion doctrinal body of knowledge has been explored and researched to determine what techniques and procedures are available to ensure survivability of the brigade support area. This doctrinal knowledge is used as a base to determine its sufficiency, how a FSB undertakes measures to protect itself, and how these measures relate to external sources of protection.

The study is based on a research of heavy brigade doctrine to determine what measures brigade commanders use to protect the brigade support area, and what criteria is used to determine when to provide protection for the brigade support area. Emphasis has been placed on battles at the National Training Center where brigade support areas were overrun and on actions taken by maneuver commanders in these situations.

The study includes research on protection and survivability doctrine to determine techniques and procedures for providing protection for the brigade support area. Specific areas include: intelligence, maneuver, fire support, air defense, engineer, combat service support, battle command, and nuclear, biological, and chemical operations.

The NTC, located in the Mojave Desert just south of Death Valley at Fort Irwin, California, is America's most realistic combat training environment. The NTC has over 1000 square miles of maneuverable terrain and offers a superb training environment. Maneuver units selected to participate in a NTC rotation go up against the 177th Armored Regiment, a Soviet style combat unit. (Note: Although the Soviet Union no longer exists, many nations still use Soviet style tactics.) The 177th forms the opposing force (OPFOR) for maneuver training units. NTC rotations are controlled by observer-controllers (OC), each an expert in his designated field.

The Center for Army Lessons Learned (CALL) maintains the after action reviews (AAR) for all National Training Center rotations. These AARs contain sections on all of the Battlefield Operating Systems (BOS).

The logistics BOS deals almost entirely with the forward support battalion and contains a subjective and objective analysis by the observer-controllers on the forward support battalion's performance during the rotation.

The CALL allows use of these materials for interested Army researchers. The bulk of the research is based on CALL's database Army Lessons Learned Management Information System (ALLMIS). ALLMIS permits queries on the combat service support keyword and NTC rotation after action reviews.

Each division has its own unique flavor of doing combat service support, and this uniqueness is derived from differing leadership styles and equipment levels. Some divisions have a higher deployability level than others and, as a result, have higher levels of equipment and personnel. Only those actions that can improve brigade support area protection for all forward support battalions will be deemed suitable as recommendations to solve the research problem.

During my search for information, there may be instances of actions taken to ensure brigade support area protection. Those actions that appear to violate doctrine will be given special attention.

The thesis will be based primarily on NTC rotational data. This approach is best because it involves the use of a large source of information on brigade support area protection and because of the realism possible at the NTC.

## Operational Definitions

Brigade Support Area. The base of operations for the FSB.[2] The size will vary with the terrain, but an area of 4-7 kilometers in diameter is a planning guideline.[3]

Close. Forces in immediate contact with the enemy, in the offense or defense, are fighting close operations.[4]

Deep. Deep operations are those directed against enemy forces and functions beyond the close battle. [5]

Doctrine. The statement of how America's Army, as part of a joint team, intends to conduct war and operations other than war. [6]

Forward Support Battalion. An organic element of the heavy division's Division Support Command consisting of a headquarters and headquarters detachment, supply company, maintenance company and medical company. [7] The FSB is the operator providing the support link between DISCOM elements in the DSA and COSCOM units on the one hand and the supported units in the brigade area on the other. [8]

Maneuver element. A brigade-sized armor or mechanized infantry unit.

Rear. Rear operations assist in providing freedom of action and continuity of operations, logistics, and battle command. [9]

Security. Measures taken by a military unit, an activity, or an installation to protect itself against all acts designed to, or that may, impair its effectiveness. [10]

Threat. Enemy actions designed to disrupt, defeat or destroy the brigade support area.

Direct Support. A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. [11]

## Limitations

There will not be an opportunity for attendance at a NTC rotation during thesis preparation and completion to personally investigate and research brigade support area operations and survivability issues. Since, the NTC and CALL have a strict policy on non-attribution. Unit designators will not be used when discussing brigade support area operations at the NTC or information from other CALL sources.

## Delimitations

Scope. This thesis will concentrate on forward support battalions of heavy divisions, located in the brigade support area.

Time. The thesis will research NTC rotation data from within the last two years, to reflect recent changes in forward support battalion data.

## Endnotes

[1]U.S. Army, FM 71-100, Division Operations (Washington: Department of the Army, 1990), 1-14.

[2]U.S. Army, FM 63-20, Forward Support Battalion (Washington, Department of the Army, 1990), 2-4.

[3]Ibid.

[4]U.S. Army, FM 100-5, Operations (Washington, Department of the Army, 1984), 6-14.

[5]Ibid.

[6]FM 100-5, 1-1.

[7]FM 63-20, 2-1.

[8]FM 63-20, 1-3.

[9]FM 100-5, 6-15.

[10]U.S. Army, FM 101-5-1, Operational Terms and Symbols (Washington, Department of the Army, 1985), 1-64.

[11]FM 101-5-1, 1-26.

CHAPTER 2

# LITERATURE REVIEW

## Introduction

The heavy brigade commander has responsibility for defense of the brigade rear area. The FSB commander has responsibility for defense of the brigade support area, which is part of the brigade rear area. This chapter reviews current doctrine for the forward support battalion and heavy maneuver brigade. It examines the missions, roles, task organization, and capabilities of these elements. The chapter also discusses possible threats to the BSA.

During my literature review I discovered that there is not a great deal of information on brigade support area survivability. Most Army doctrine only addresses the issue in a general sense. This review encompasses the doctrine that is available and presents pertinent information on the forward support battalion.

## FM 63-20

FM 63-20, Forward Support Battalion, is the keystone manual for forward support battalion operations. It provides the basic foundation for brigade support area protection. FM 63-20 has been improved drastically over the last few years due to the inclusion of validated lessons learned from the NTC. A validated lesson learned is one in which a given technique has been proven to be consistently successful over time.

FSB Mission. The FSB's primary role is to provide direct support level supply, maintenance and medical support to the brigade and units operating in the brigade area.[1] This role entails a dual

requirement.[2] First the FSB must plan to support future operations.[3] It must anticipate requirements and incorporate planning guidance.[4] Second the FSB must support current operations.[5] It must monitor the implementation of the support plan.[6] The FSB must actively monitor all support operations in conjunction with the brigade S4.[7] It makes adjustments as required to ensure support requirements are met.[8] The FSB performs its mission if it supports the brigade's course of action and meets the DISCOM commander's guidance.[9]

FSB Organization. The forward support battalion is part of the heavy division support command (DISCOM).[10] The heavy division DISCOM is organized to provide one forward support battalion to each division maneuver brigade.[11] The forward support battalion consists of a headquarters and headquarters detachment, a supply company, a maintenance company and a medical company.[12] The FSB commander may receive additional assets from division or corps to provide support beyond its capabilities.[13]

FSB Capabilities. The supply company supports the arming system through its class V operations, the fueling system through class III operations, and the manning task through provision of rations, clothing, and individual equipment.[14] Specifically, the company provides receipt, storage, and issue of class I, II, III, III(packaged), IV, and VII items. It also conducts class V transloading operations at its ammunition transfer point and operates a salvage point.[15]

The maintenance company is a critical component in fixing the force.[16] The company provides direct support maintenance, limited backup recovery assistance, technical assistance, technical supervision of supply of prescribed load list items, and maintains class IX repair parts.[17]

The forward support medical company plays a vital role in the manning task by providing division and unit level health service support to all units operating in the supported brigade area on an area basis.[18]

The company provides treatment of patients with minor diseases and illnesses, triage of mass casualties, initial resuscitation and stabilization, and preparation for further evacuation of patients incapable of returning to duty.[19]

Brigade Support Area. The brigade S3 approves the BSA location based on the tactical situation and the recommendation of the FSB commander and staff and the brigade S4.[20] The FSB commander must ensure the area is small enough for C3 and security purposes, yet large enough to accommodate the dispersion required by the FSB and all the other elements normally located in the BSA.[21] An area of 4-7 square kilometers is a planning guideline.[22]

The brigade support area is generally located 25 - 30 kilometers from the FLOT during support of defensive operations.[23] This distance places the brigade support area outside the range of all but long-range multiple rocket launcher fire.[24]

The elements located in the BSA vary with a number of factors.[25] The FSB commander and staff will coordinate with the brigade S4 to determine who will be in the BSA.[26] The following list is a representative example of division elements that could be expected to locate in the BSA: military intelligence team, military police platoon, engineer company/companies(-), ADA battery, field artillery battalion field trains, brigade rear command post (CP), forward signal platoon, smoke platoon, decontamination platoon, reconnaissance squad, enemy prisoner of war (EPW) collection point, reconstituting units, and field trains from maneuver battalions.[27] The FSB S2/S3 is responsible for assigning terrain within the BSA to these elements.[28]

FSB Firepower. FSB soldiers are equipped with various small arms and crew served weapons for their defense. These weapons are the M16 rifle, the M203 grenade launcher, the M60 machine gun and the .50 caliber machine gun. In addition, a variety of mines and hand grenades

are issued. The FSB has no organic indirect fire or armor-killing capability.

FM 71-3

FM 71-3 describes how the heavy brigade fights on the AirLand battlefield.[29] It focuses on the brigade's organizational structure, command and control, tactical employment, combat support and combat service support.[30] It outlines synchronization of the assets attached or assigned to the heavy brigade.[31]

Armored and mechanized infantry brigades are organized to fight successful battles on any part of the battlefield and in conventional, nuclear, or chemical environments.[32] They combine the efforts of their battalions to perform major tactical tasks as part of a division or corps operation.[33] The key to victory in the brigade battle is its ability to synchronize subordinate maneuver battalions and integrate combat support and combat service support combat multipliers in support of the brigade effort.[34]

Heavy Brigade Mission. The mission of the brigade is to close with and destroy enemy forces using its mobility, firepower, and shock effect.[35] It defeats enemy assault by defensive fires, obstacles, and counterattacks.[36]

Heavy Brigade Organization. The brigade is assigned varying numbers of armor and mechanized infantry battalions by the division commander to accomplish a specific mission.[37] CS and CSS units are task organized to support the brigade as necessary.[38]

Heavy Brigade Capabilities. Heavy brigades apply their combined arms, mobility, firepower, and shock effect to:

-- Conduct sustained combat operations in all environments.[39]

-- Accomplish rapid movement and deep penetrations.[40]

-- Exploit success and pursue a defeated enemy as part of a larger formation.[41]

-- Conduct security operations for a larger force.[42]

-- Conduct offensive operations or delay in sector over large areas.[43]

-- Conduct offense operations.[44]

Airland Battlefield. The AirLand battlefield is generally divided into three areas of operations: deep, close, and rear.[45] Deep, close, and rear operations are inseparable.[46] Deep and rear operations are essential to winning close operations.[47] The AirLand battle commander develops his intent and accepts risks to achieve decisive results.[48] He secures the initiative and conducts offensive action aimed at imposing his will on the enemy.[49] The objectives of his maneuver are to position strength against weakness, throw the enemy off balance, and aggressively follow up to complete the enemy's defeat and destruction.[50]

CSS in the Offense. CSS operations in the offense are designated to maintain the momentum of the attack.[51] The FSB commander prepares and executes a logistics plan developed to support the maneuver brigade's tactical plan.[52]

FSB logistics support must be continuous.[53] The FSB displaces priority resupply classes by bounds to support the momentum of the offense.[54] The movement of the FSB is coordinated among the FSB, rear CP, and main CP to ensure continuous support to and to avoid impeding maneuver elements.[55]

CSS in the Defense. Logistics support to the combined arms team must be coordinated during the planning and execution phases of each defensive operation.[56] The S4 and FSB commander must understand the brigade commander's tactical intent so that service support priorities can be established and logistics operations planned to ensure the supportability of the defense.[57] All CSS activities must look beyond the defense to support opportunities for maneuver units during the transition to the offense.[58]

Brigade Rear Operations. In the operational context, the primary purpose for conducting rear operations is to retain overall freedom of action for fighting close and deep operations.[59] Rear operations represent a critical fight for the brigade commander.[60] The AirLand battle cannot be won solely by fighting in the rear but could well be lost there.[61]

Rear operations consist of those actions, including area damage control, taken by all units singly or in a combined effort, to secure the force, neutralize or defeat enemy operations in the rear, and ensure freedom of action in the deep and close operations.[62] It is a system designated to ensure continuous support.[63] Rear operations are not just the protection of logistics facilities.[64] Rear operations include movement of friendly units throughout the rear area.[65] Tactical combat forces may be required to defeat the rear threat. Rear operations may divert forces from the brigade close operation.[66]

The brigade commander is responsible for plans and operations throughout the depth of his area of operations.[67] He assigns tasks to subordinate and supporting commanders to execute those responsibilities.[68] The brigade S3 includes detailed planning for the entire rear area as part of operational planning for offensive and defensive missions.[69] The FSB commander is responsible for the BSA.[70] For security purposes, this includes the operational control of all elements operating within the BSA.[71]

## FM 71-100

FM 71-100 is the Army's capstone manual for division operations.[72] It is primarily designed to assist division commanders, their staffs, and subordinate commanders in planning and conducting combat operations.[73] It describes the type of threats FSBs may encounter on the battlefield.

The Threat Threat doctrine emphasizes the integrated conduct of tactical operations in an enemy's rear area.[74] The purpose of these threat operations will be to seize and maintain the initiative while degrading or eliminating the brigade's flexibility and capability to sustain the close operation.[75] To achieve these aims, threat activities in the brigade rear area will target critical support and logistics facilities and units, and main supply routes.[76] Three levels of threat activity are used to serve as a guide for planning rear operations.[77] Rather than focusing on the size or type of threat, these levels focus on the nature of the friendly response required to defeat the threat.[78]

Level I Threat. Level I threats are those which can be defeated by base or base cluster self defense measures.[79] Examples of what a level I threat may involve are: enemy controlled agent activities, sabotage by enemy sympathizers and terrorist activities.[80]

Level II Threat. Level II threats are those which are beyond base or base cluster self-defense capabilities and can be defeated by response forces, normally military police with supporting fires.[81] Examples of what a level II threat may involve are: diversionary and sabotage operations conducted by unconventional forces; raid, ambush and reconnaissance operations conducted by small combat units; special or unconventional warfare missions.[82]

Level III Threat. Level III threats are those which necessitate the command decision to commit a tactical combat force.[83] Examples of what a level III threat may involve are: heliborne operations, airborne operations, amphibious operations, ground force deliberate operations (for example, operational maneuver groups with linkup of smaller airborne and assault units to form larger organizations), and infiltration operations.[84]

These threat activities will not occur in a specific order nor is there a necessary interrelationship between threat levels.[85] The

brigade rear area may face one or all threat level activities at one time.[86] Additionally, some level I and II threat activities will likely begin well ahead of general hostilities.[87]

In addition to the ability to introduce ground forces into a division rear, threat doctrine integrates tactical Air Force and attack helicopter strikes; the delivery of long-range artillery, missiles, and rockets; and radio electronic combat into their deep operations plan.[88] Thus, the complexity and intensity of enemy deep operations capabilities and doctrine pose a formidable threat to friendly rear operations.[89]

## FM 5- 103, Survivability

FM 5-103 integrates survivability into the overall Airland battle structure.[90] Survivability doctrine addresses when, where, and how fighting and protective battlefield positions are prepared for individual soldiers, troop units, vehicles, weapons, and equipment.[91] FM 5-103 implements survivability tactics for all branches of the combined arms team.[92]

The concept of survivability on the AirLand battlefield includes all aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy.[93] The lethal battlefield requires commanders to know all survivability tactics available including building a good defense; employing frequent movement; using concealment, deception, and camouflage; and constructing fighting and protective positions for both individuals and equipment.[94]

In the offense of the AirLand battle, fighting and protective position development is minimal for tactical vehicles and weapons systems.[95] The emphasis is on mobility of the force.[96] Protective positions for logistics systems are required in the offense and defense, although more so in the defense.[97]

Defensive missions demand the greatest survivability and protective construction effort.[98] Critical elements for protective

positions are command and control facilities, supply, and ammunition areas since these will be targeted first by the Threat.[99] Facilities emitting a strong electromagnetic signal, or substantial thermal and visual signature, require full protection against the Threat.[100]

FM 5-103 includes all of the information FSBs need to develop individual and unit fighting positions. It contains full specifications and detailed sketches of several types and styles of fighting positions, shelters, trenches, and bunkers. FM 5-103 includes information on setting up a proper camouflage system, and how to counter direct and indirect fire.

FM 90-14, Rear Battle

Rear battle operations consist of those actions taken by all units singly or in a combined effort, to secure the force, neutralize or defeat enemy operations in the rear area, and ensure freedom of action in the deep and close battles.[101]

The rear battle represents a critical fight for the US Army.[102] The AirLand Battle cannot be won solely by fighting the rear battle; but it could well be lost in the rear.[103] Therefore, it is important that combat service support commanders focus their training toward base defense and rear battle operations, along with their continued support mission.[104]

Every unit in the rear area is responsible for its own defense.[105] Rear battle operations are designed to build on this concept, integrating mutual support into a viable defense.[106] This defense concept in turn prevents the commitment of combat forces until such time that a substantial enemy threat exists.[107]

All units in the rear area will be assigned to a base or will establish a base.[108] A base is a unit or a multi-unit position that has a definite perimeter.[109] The senior officer in the base will be the base commander.[110] The base commander will establish a base defense operation center which will operate 24 hours a day in support of the

tactical chain of command.[111] The base commander will plan, prepare, and supervise the internal defense to ensure the protection of personnel, equipment, and resource from enemy attack.[112] The commander will train all personnel in basic defense techniques to establish a viable defensive perimeter.[113] The base commander will prepare a defense plan and instruct all personnel and units within the base on the effective execution of the plan.[114] The base commander will develop a reaction force to augment the defensive posture of the base.[115] This reaction force is designed for internal security and reinforcement of the base; only under extreme circumstances will a base defense reaction force be committed to support assets outside the base.[116] Base commanders will recommend movement/positioning of their units to the brigade S3 to enhance their physical security.[117]

The base commander will gain mutual support from units in or near his vicinity and will coordinate with local MP patrols to secure support for the base.[118] This coordination with the MP should include communications interface, tactical planning for the MP response force, and how and where the MP should rally to support the base.[119] The base commander is responsible for the defeat of all Level I threats using active and passive defense measures.[120] When this threat exceeds his capabilities, he may request MP support.[121] The base commander's capability to defend the base is the cornerstone of the rear battle mission.[122]

## Base Cluster Defense: The Thin Line

Major Mark Bellini's monograph examines the challenges of defending vital combat service support assets at the brigade level. The self defense mission inherent for Forward Support Battalions is evaluated to determine if current doctrine is adequate. The monograph examines the evolution of German defense doctrine and techniques used during Operation Barbarossa, the invasion of Russia in 1941. The challenges that faced the Germans then are similar in nature to those

confronting CSS unit commander in establishing viable defense plans today.[123]

The moral aspects of soldiers engaged in defensive combat operations are incorporated into the evaluation of techniques and doctrine used during Operation Barbarossa and in the subsequent review of U.S. doctrine.[124]

Current U.S. doctrine is reviewed as a basis for examining how CSS units plan and execute base and base cluster defense operations in the field. Findings from NTC and Center for Army Lessons Learned are highlighted to demonstrate how well our doctrine is applied and how well it works.[125]

The findings from the NTC are based on interviews with NTC personnel. This thesis will concentrate on the outcome of events experienced by FSBs at the NTC.

## Endnotes

[1]U.S. Army, FM 63-20, Forward Support Battalion (Washington: Department of the Army, 1990), 2-2.

[2]Ibid.

[3]Ibid.

[4]Ibid.

[5]Ibid.

[6]Ibid.

[7]Ibid.

[8]Ibid.

[9]FM 63-20, 2-3.

[10]FM 63-20, 2-1.

[11]Ibid.

[12]Ibid.

[13]FM 63-20, 2-2.

[14]FM 63-20, 7-1.

[15]Ibid.

[16]FM 63-20, 8-1.

[17]Ibid.

[18]FM 63-20, 9-1.

[19]Ibid.

[20]FM 63-20, 2-4.

[21]Ibid.

[22]Ibid.

[23]FM 63-20, 2-5.

[24]Ibid.

[25]FM 63-20, 5-6.

[26]Ibid.

[27]Ibid.

[28]FM 63-20, 6-4.

[29]U.S. Army, FM 71-3, Armored and Mechanized Infantry Brigade (Washington: Department of the Army, 1988), ii.

[30]Ibid.

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[35]Ibid.

[36]Ibid.

[37]Ibid.

[38]Ibid.

[39]Ibid.

[40]Ibid.

[41]Ibid.

[42]Ibid.

[43]Ibid.

[44]Ibid.

[45]FM 71-3, 1-2.

[46]Ibid.

[47]Ibid.

[48]Ibid.

[49]Ibid.

[50]Ibid.

[51]FM 71-3, 3-7.

[52]Ibid.

[53]Ibid.

[54]Ibid.

[55]Ibid.

[56]FM 71-3 4-12.

[57]Ibid.

[58]Ibid.

[59]FM 71-3, 5-21.

[60]Ibid.

[61]Ibid.

[62]Ibid.

[63]Ibid.

[64]Ibid.

[65]Ibid.

[66]Ibid.

[67]Ibid.

[68]Ibid.

[69]Ibid.

[70]Ibid.

[71]Ibid.

[72]U.S. Army, FM 71-100, Division Operations (Washington: Department of the Army, 1990), I.

[73]Ibid.

[74]FM 71-100, 1-10.

[75]Ibid.

[76]Ibid.

[77]Ibid.

[78]Ibid.

[79]Ibid.

[80]Ibid.

[81]FM 71-100, 1-11.

[82]Ibid.

[83]Ibid.

[84]Ibid.

[85]Ibid.

[86]Ibid.

[87]Ibid.

[88]Ibid.

[89]Ibid.

[90]U.S. Army, FM 5-103, Survivability (Washington: Department of the Army, 1985) I.

[91]Ibid.

[92]Ibid.

[93]FM 5-103, 1-1.

[94]Ibid.

[95]FM 5-103, 1-6.

[96]Ibid.

[97]FM 5-103, 1-7.

[98]Ibid.

[99]Ibid.

[100]Ibid.

[101]U.S. Army, FM 90-14, Rear Battle (Washington: Department of the Army, 1985, I.

[102]Ibid.

[103]Ibid.

[104]Ibid.

[105] FM 90-14, 3-19.

[106]Ibid.

[107]Ibid.

[108]Ibid.

[109]Ibid.

[110]Ibid.

[111]Ibid.

[112]Ibid.

[113]Ibid.

[114]Ibid.

[115]Ibid.

[116]Ibid.

[117]Ibid.

[118]Ibid.

[119]Ibid.

[120]Ibid.

[121]Ibid.

[122]Ibid.

[123]Bellini, Mark A. Maj, Base Cluster Defense: The Thin Line, p1, School of Advanced Military Studies, Fort Leavenworth: CGSC 20 December, 1991.

[124]Ibid.

[125]Ibid.

# CHAPTER 3

# RESEARCH METHODOLOGY

## Introduction

This chapter presents the research methodology that was used to answer the research question. The chapter reviews missions at the NTC, discusses the importance of mission analysis and concept of operations to BSA security, and introduces the seven battlefield operating systems in terms of BSA security. The chapter also discusses the advantages and disadvantages of the research methodology. The chapter begins with a discussion of the research methodology.

## Research Methodology

This study looks at BSA security at the NTC and examines actions that contributed to BSA survival or destruction. The research methodology involves the examination of key events that affected BSA survival at the NTC, in terms of the seven battlefield operating system framework: intelligence, maneuver, fire support, air defense, mobility, counter-mobility and survivability, combat service support, and battle command. This coincides with how NTC AAR data is arranged.

Three criteria are applied to each event that affected BSA security:

1. Was there existing doctrine that covered the situation?
2. If there was existing doctrine, was it used?
3. Did it work?

The research examined 18 missions during six NTC rotations focusing on BSA security. Each mission was analyzed to determine what

significant actions contributed to success or failure of BSA security. For the purposes of this study, events that had an influence on BSA security are deemed significant events. Significant actions were analyzed per doctrine and categorized by BOS. The next section provides a more detailed discussion of NTC missions.

NTC Missions. The study reviews significant actions that occurred during six NTC rotations (NTC 94-01 through 94-06). These rotations were selected because they were the latest data available at the time research occurred, and because they all had instances of the BSA being attacked.

The three types of maneuver brigade missions that will be reviewed during the study are Defense in Sector, Hasty Attack, and Deliberate Attack. These are the three most common missions performed by heavy maneuver units at the NTC.

Defense in Sector. A defense in sector is a mission which requires a defending unit to prevent enemy forces from passing beyond the rear boundary of the sector, while retaining flank security, and ensuring integrity of effort within the parent unit's scheme of maneuver.[1] Initial positions generally are established as far forward as possible, but a commander may use any technique to accomplish the mission.[2]

Hasty Attack. A hasty attack is an offensive operation for which a unit has not made extensive preparations.[3] It is conducted with the resources immediately available in order to maintain momentum or to take advantage of the enemy situation.[4]

Deliberate Attack. A deliberate attack is an offensive operation that is planned and carefully coordinated with all concerned elements based on thorough reconnaissance, evaluation of all available intelligence and relative combat strength, analysis of various courses of action, and other factors affecting the situation.[5] It generally is

conducted against a well-organized defense when a hasty attack is not possible or has been conducted and failed.[6]

Mission Analysis and Concept of Operation. The FSB's mission analysis is a thorough examination of all of the facts and assumptions involved in preparation to successfully support the maneuver brigade's mission. It reviews requirements and shortfalls and determines what must be done to accomplish the mission and how the mission will be accomplished. Mission analysis also includes an assessment of the risks involved in accomplishing the mission.

A sound mission analysis is required to provided efficient and effective support for the heavy brigade, and to ensure survivability for the BSA. The study will review the mission analysis conducted by FSBs at the NTC, and determine its adequacy and relevance to BSA security.

The FSB concept of the operation states how the FSB will accomplish the mission. It explains how the FSB will defend itself, such as establishment of defensive positions, establishment of LP/OPs, and control point operations. It includes actions relative to all means of enemy attack. The study will review FSB concepts of the operation to determine if they supported BSA survivability and make recommendations.

## Battlefield Operating Systems

Intelligence is the product resulting from the collection, analysis, integration, and interpretation of all available information concerning an enemy force, foreign nations, or areas of operations and which is immediately or potentially significant to military planning and operations.[7]

For BSA security, the FSB commander, along with his staff, must analyze the terrain and weather and integrate this information with knowledge of the enemy.[8] This enables the commander to identify probable target areas and activities.[9] He can then predict probable courses of action to plan security operations.[10]

The Intelligence BOS also provides the threat analysis for decisions such as: request for commitment of level II response forces or the level III tactical combat force, commitment of the local quick reaction force for the base or base cluster, request for fire support to preplanned target areas of interest, and jumping to a new location.[11]

Maneuver is the employment of forces on the battlefield through movement and direct fires in combination with fire support or fire potential to achieve a position of advantage in respect to enemy ground forces in order to accomplish the mission.[12]

The maneuver BOS is most pertinent to the FSBs ability to move and defend against enemy forces. FSBs must be prepared to move quickly based on the outcome of the ongoing battle. This movement is predicated on the FSBs ability to plan and prepare. The BCOC plans emergency move procedures.[13] If the FSB is under imminent danger from a level II or III threat, the BCOC calls for an emergency move of key BSA assets.[14] FSBs must be prepared to defend against Level 1 threats. This responsibility includes assigning individual fighting positions, deploying crew-served weapons in fighting positions, and identifying target reference points.[15] The maneuver BOS also includes the employment of external forces to combat level II and level III forces. The study reviews the FSBs ability to execute movement and defense responsibilities.

Fire support is the collective and coordinated use of target-acquisition data, indirect-fire weapons, armed aircraft, and other lethal and nonlethal means against ground targets in support of maneuver force operations.[16]

The BCOC develops the fire planning required to implement the execution of fire support for the BSA.[17] The FSB S2/S3 coordinate fires with the BSA FSO designated by the field artillery battalion commander.[18] Together, they plan targets for BSA defense and help establish pre-planned engagement areas for artillery and close air

support.[19] Targets are placed in the TACFIRE systems for both brigade and division implementation.[20] Calls for fire from BSA subordinate elements are made to the BSA BCOC via field phones.[21] If phones are not available FM radio is used.[22]
The study will review fire support procedures executed by elements in the BSA at the NTC and examine their sufficiency.

Air defense includes all measures designed to nullify or reduce the effectiveness of attacks by hostile aircraft or missiles after they are airborne.[23] The BSA must be protected from enemy air strikes. ADA assets likely to be available in the BSA are Stingers if the BSA is one of the main defensive priorities. The BCOC will coordinate with the Stinger section chief for BSA defensive fires. Assets are positioned to cover anticipated air avenues of approach. The ADA base in the BSA will run a phone line to BCOC. This ensures early warning of all in-bound aircraft. In addition, although not located in the BSA, Patriot units may be assigned sectors that encompass the BSA_and support ADA fires within the BSA.

Mobility, Counter-mobility and survivability describe the functions of the force that permit freedom of movement relative to the enemy while retaining the ability to fulfill its primary mission.[24]

When divisional engineer assets are located in the BSA, they will be made available to the BSA BCOC for survivability and countermobility operations. Therefore, the FSB S2/S3 must be prepared to take advantage of assets as they become available. Along with an engineer designated by the brigade engineer, he will plan barriers and minefields.

The combat service support BOS contains functions and services the force requires to man, arm, fuel, fix, move, and sustain the Army units in combat operations.[25] The CSS BOS also includes functions to build and maintain facilities and provide MP support.[26]

A direct support military police platoon is usually operating from the BSA.[27] The area security mission of the MPs is vital to rear operations.[28] MPs employed in the brigade rear provide a light, mobile force that can move, shoot, and communicate.[29] Their mobility makes it possible for them to detect the threat as they aggressively patrol road nets and key terrain features throughout the rear area.[30] Their organic communications enable them to advise the rear CP, BSA and moving units of impending enemy activity.[31] MPs may also be used for convoy security and to protect static positions as required.[32] However, when used in this manner, missions which capitalize on MP mobility are degraded.[33]

Combat service support operations can be performed in a manner that is conducive to survival. For example, resupply operations should be performed at night and during periods of limited visibility. This degrades the enemy's ability to acquire and subsequently attack the BSA.

Battle Command, formerly referred to as Command and Control, is the exercise of authority and direction by a properly designated commander over assigned forces in accomplishing the mission.[34] The battle command BOS encompasses the mission analysis process and concept of the operation.

Some tactics, techniques and procedures (TTP) used at the NTC are not doctrinal. Sometimes this is because new equipment or personnel authorizations are used by FSBs that are not yet covered in doctrine. Frequently, the NTC provides an environment that is conducive to improving doctrine. Commanders improvise and develop interesting and highly successful new ways of resolving combat service support problems. When available, non doctrinal TTP will be presented and examined.

## Methodology Strengths/Weaknesses

Strengths. The NTC represents the most realistic training battlefield in the world. It is one of the few training environments where FSBs support across realistic distances and experience life-like enemy

attacks. Observations derived from researching NTC data are likely to have real world relevance.

The battlefield operating systems (BOS) provide a valuable framework to evaluate FSB survival on the battlefield. The BOS encompasses all of the important elements of combat, combat support and combat service support operations, and is familiar to Army personnel.

Weaknesses. The NTC is a desert environment and may not adequately portray conditions that a FSB would face in forested, cold weather, or urban environments.

The battlefield operating systems are not familiar to personnel from sister services or civilian analysts. Use of the BOS entails an additional learning requirement for these personnel. The doctrinal definitions I have included in this chapter should ease the effort required.

## Conclusion

This chapter presented a methodology to determine the survivability of the FSB on the battlefield. The battlefield operating systems provides an efficient and effective framework to assess events that occurred during the six NTC rotations. The three types of missions examined in this thesis portray the type of missions most commonly fought by combat units and reflect the type of difficulty FSBs face to survive on the battlefield.

Sound intelligence is required to allow the FSB to accurately predict the chances of threat attacks on the BSA. The maneuver BOS is important, as it involves the ability of the BSA to move out of harm's way and react to threat ground forces. Fire support synchronization is required to establish pre-planned engagement areas for artillery and close air support. The Air defense BOS provides for the execution of efficient anti-air operations to protect the BSA. Mobility, counter-mobility and survivability provides the mechanism to restrict freedom of

movement of enemy forces. The combat service support BOS encompasses the manner in which CSS is performed. Good CSS is performed in a manner which reduces the ability of the enemy to degrade CSS operations. The Battle Command BOS encompasses the command and control of the BSA.

## Endnotes

[1]U.S. Army' FM 101-5-1, Operational Terms and Symbols (Washington: Department of the Army, 1985), 1-23.

[2]Ibid.

[3]FM 101-5-1, 1-8.

[4]Ibid.

[5]Ibid.

[6]Ibid.

[7]FM 101-5-1, 1-39.

[8]U.S. Army' FM 63-20, Forward Support Battalion (Washington: Department of the Army, 1990), 5-3.

[9]Ibid.

[10]Ibid.

[11]U.S. Army' FM 34-130, Intelligence Preparation of the Battlefield (Washington, Department of the Army, 1994), 4-22.

[12]U.S. Army' FM 101-5, Command and Control for Commanders and Staff Final Draft (Washington: Department of the Army, 1984), 3-86.

[13]FM 63-20, 5-12.

[14]FM 63-20, 5-12.

[15]FM 63-20, 5-13.

[16]FM 101-5, 3-87.

[17]FM 63-20, 5-9.

[18]Ibid.

[19]Ibid.

[20]Ibid.

[21]Ibid.

[22]Ibid.

[23]FM 101-5, 3-87.

[24]FM 101-5, 3-88.

[25]Ibid.

[26]Ibid.

[27]FM 63-20, 5-10.

[28] Ibid.

[29] Ibid.

[30] Ibid.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] FM 101-5, 3-87.

# CHAPTER 4

# Analysis

## Introduction

This chapter examines combat missions during six rotations at the National Training Center. Significant observations concerning BSA security are discussed and analyzed. A significant observation is one which had a dramatic impact on BSA security. Significant observations are categorized using the battlefield operating system (BOS) framework (Intelligence, Maneuver, Fire Support, Air Defense, Mobility, Counter-mobility and Survivability, Combat Service Support, and Battle Command). A detailed analysis is provided for each BOS, except combat service support. The analysis determines if there was existing doctrine, was it used, and did it work. Where doctrine existed to address an observation, a doctrinal reference is included describing the doctrinal guidance related to the observation. Each BOS section also includes a BOS summary. The summary outlines the significant problems that occurred, the interrelationships between the problems, and the effect of doctrine.

A matrix is included which provides an overview of the significant observations for each rotation, and graphically portrays trends across the six rotations examined. The matrix also shows any significant threat to BSA security that occurred. N/A (No activity) is used to indicate that no significant event affecting BSA security occurred. The chapter begins with a discussion of key events in the Intelligence BOS.

| Rotation | NTC 94-1 | NTC 94-2 | NTC 94-3 | NTC 94-4 | NTC 94-5 | NTC 94-6 |
|---|---|---|---|---|---|---|
| BSA Threat | Level I/II | Level III | N/A | N/A | Red Air | Level III |
| Intelligence | Weak IPB.<br>Weak battle tracking.<br>No CSS Overlays. | Weak IPB.<br>Weak battle tracking. | PIR Development. | Weak IPB.<br>PIR Development<br>Battle tracking. | Weak IPB.<br>Communications problems. | Weak IPB. |
| Maneuver | Poor movement operations. | N/A | Poor movement operations. | Poor movement operations. | N/A | Poor movement operations.<br>Daylight moves. |
| Fire Support | Poor FS coordination. | Poor FS coordination. | Poor FS coordination. | Poor FS coordination. | Poor FS coordination. | Poor FS coordination. |
| Air Defense | Poor execution. | Poor AD signals. | Poor AD signals. | Poor AD signals. | Poor AD signals. | Poor AD signals. |
| MCM | Poor planning | Poor planning. | Poor planning.<br>Fighting positions. | Poor planning.<br>Fighting positions | Poor fighting positions.<br>Poor dispersion. | Poor planning. |
| CSS | N/A | N/A | N/A | N/A | N/A | N/A |
| Battle Command | Integration of field trains. | N/A | N/A | N/A | Battle staff. | N/A |

Figure 1. Battlefield Operating System Matrix

## Intelligence

Weak IPB. The Intelligence Preparation of the Battlefield (IPB) process provides vital information about enemy capabilities and intentions. The FSB S2/S3 section was unable to get the brigade to provide rear area threat information to the BSA during NTC rotation 94-1. This information assists the FSB S2/S3 in developing its IPB.

During NTC 94-1, the FSB received operations graphics from the brigade for most missions. The FSB S2/S3 did not used this information to perform an analysis of the area of operations. Analysis of enemy and friendly mobility corridors, and ranges of threat artillery, were not viewed for their impact on logistics operations.

During NTC 94-2, more emphasis was needed on the analysis of potential Level I, II, and III attacks. Intelligence acquisition missions were not provided to BSA elements. During NTC 94-1, 94-2, 94-4, and 94-6, FSBs that developed reconnaissance and surveillance (R&S) plans needed more work on analysis of reports from patrols and tenants.

During NTC 94-5, the FSB did not produce an intelligence estimate or conduct IPB. The FSB S2/S3 felt this was the brigade's responsibility. The brigade S2's products are necessary to prepare the intelligence estimate for the BSA. The FSB S3 must remember that the IPB done by the brigade can always be expanded upon to meet the needs of the BSA.

FM 63-20, Forward Support Battalion, provides limited information on analysis of terrain and the IPB process.[1] Detailed information on this area is found in FM 34-130, Intelligence Preparation of the Battlefield.[2] The process of acquiring intelligence information from the brigade should be part of the FSB's tactical standing operating procedures (TSOP). For an FSB the R&S plan may be no more than assigning intelligence acquisition tasks to patrols, BSA elements, ambulance exchange points, and BSA vehicles traversing the main supply route.

Reconnaissance and surveillance plans are used to collect intelligence information. This information is essential to the IPB process and is used to determine avenues of approach for Level I, II, and III attacks.

The doctrine in FM 34-130 that describes the IPB process was not followed well. The interface between the FSB and the brigade is normally prescribed in TSOPs. This unit doctrine was not followed or was not available. FM 63-20 states that FSBs must perform IPB.[3] The FSB during NTC rotation 94-5 did not perform IPB.

Intelligence doctrine was not fully applied. The analysis of operational graphics, to include enemy and friendly mobility corridors was not performed. The evidence suggests that had the doctrine been applied, it would have worked and improved BSA survivability.

Poor CSS Overlays. CSS overlays contain operational graphics and provide a visual means to monitor friendly and enemy movements and enhance combat service support operations. During NTC 94-1, CSS overlays were not always kept current. Only one soldier in the FSB was knowledgeable about posting the CSS overlays.

There is no Army doctrine that requires units to post operational graphics. This is a common sense technique that is used throughout the Army. The requirement to post operational graphics and track the battle is normally covered in the FSB's tactical SOP. The evidence suggests that there were procedures for posting the CSS overlays. These procedures were not performed routinely.

The unit's doctrine on posting CSS overlays wasn't followed, therefore its not possible to determine if it worked. The evidence suggests that if the unit had followed its SOP, it would have improved its ability to monitor the enemy situation.

Weak Battle Tracking. Battle tracking is a technique to track the enemy and friendly situation, and is essential to early warning of possible enemy attacks on the BSA. The FSB was unable to get the

information from brigade that was necessary to track the battle. The FSB required focused reports of enemy activity, such as the use of chemical agents on the battlefield, by-passing of enemy positions, and the forward progress during an attack or breakthrough. During NTC rotations 94-2 and 94-4 the FSB S2/S3s were not initially tracking the battle. As the rotation progressed, they began battle-tracking and the situation improved.

There is no Army doctrine that requires units to battle track. This is also a common sense technique that is used throughout the Army. Battle tracking is a key survivability issue. It is not covered in FM 63-20, Forward Support Battalion, FM 34-130, Intelligence Preparation of the Battlefield, or any of the other doctrinal resources used during this study. Units at the NTC have discovered that battle-tracking is essential, and normally include it in their tactical SOP. The SOP covers who does battle tracking and when it should be completed.

The unit doctrine for battle tracking wasn't used during NTC rotations 94-2 and 94-4, therefore it isn't possible to determine if it worked. The evidence suggest that if it had been used, it would have worked and improved BSA survivability.

Priority Intelligence Requirements (PIR) Development.

PIRs provide the heavy brigade with the FSB's key intelligence requirements and assist the FSB in developing its IPB. FSBs had problems getting the brigade to resource FSB/rear CP priority information requirements during NTC rotation 94-2. The FSB in NTC rotation 94-3 did not submit PIRs to the brigade. More work was required in developing the FSB commander's PIR list during NTC rotation 94-4.

PIRs are discussed in FM 34-130, Intelligence Preparation of the Battlefield. PIRs are not covered in FM 63-20, Forward Support Battalion. PIRs were used during all of the NTC rotations examined except NTC rotation 94-3.

The PIRs that were developed by the FSBs were not effective during NTC rotations 94-2 and 94-4. They did not contain critical intelligence needs. The evidence suggests that had PIRs been prepared adequately, the doctrine on PIRs would have worked and improved BSA survivability.

Summary. Intelligence doctrine was not applied. The IPB was not effective in NTC rotations 94-1, 94-2, 94-4, 94-5, and 94-6. FSBs performed weak battle tracking in NTC rotations 94-1, 94-2, and 94-4. PIR development were problems in NTC rotations 94-2, 94-3 and 94-4. Sufficient guidance is available in FM 34-130, Intelligence Preparation of the Battlefield, to conduct an IPB and prepare a PIR list. Unit tactical SOPs should contain guidance on posting CSS overlays and performing battle tracking. The OPFOR reached the BSA on three occasions by bypassing or defeating the brigade forward maneuver elements. Utilization of intelligence doctrine might have provided the early warning that would have limited the damage to the BSA.

## Maneuver

Poor movement operations. Movement is an essential component of BSA survivability. BSAs must be able to move on a 24 hour basis to get out of harm's way should the need arise. The FSB had some problems with movement operations during NTC rotation 94-1, specifically synchronization of echelonment and coordination for lift assets. FSB forklifts were left behind due to transportation shortfalls. The FSB emergency displacement operations were weak. The OPORD was not synchronized to allow efficient, quick, and rapid movements. The FSB tactical SOP addressed the assets to be moved, but did not include all assets and personnel. The FSB is 100% mobile. Adequate anticipation and coordination can accomplish a 100% displacement. This is dependent on the knowledge of the enemy situation and IPB.

Movement planning by the FSB did not address the displacement of all soldiers and assets during NTC rotations 94-3, 94-4, and 94-6.

Triggers for the FSB's movement were not precisely calculated. Risk management and responsiveness are applicable factors here.

FM 63-20, Forward Support Battalion, provides comprehensive guidance on movement planning.[4] Movement echelonment, convoy techniques, convoy defense, coordination for additional lift assets, and emergency moves are discussed in detail.[5]

The guidance outlined in FM 63-20 was not followed. Key leaders did not implement the movement guidance contained in Appendix A of FM 63-20.

The evidence suggests that had the movement guidance in FM 63-20 been followed, the doctrine would worked and would have improved BSA survivability.

Daylight Moves. The FSB conducted its moves during daylight during NTC rotation 94-6. This created lucrative targets for the OPFOR (ground and air attacks). Improvements were needed on intervals, OPSEC, actions at the halt, and while under an attack during a road march.

FM 63-20 discusses FSB moves, including night moves.[6] The BSA commander must make the decision on whether to conduct a night move.[7] Night moves require more coordination.[8] Night moves reduce the probability of enemy observation but make the convoy more vulnerable to sniper fire and ambush.[9] They also contribute to driver fatigue.[10] Additional guidance on night moves is available in FM 55-30[11].

Existing doctrine was used. The FSB did not violate doctrine by conducting a day move.

The benefits of night moves outweigh the risks. Night moves dramatically reduce the probability of enemy observation, promotes operational security, and enhances BSA survivability. Experience at the NTC has shown that units that routinely perform daylight moves, are overwhelmingly prone to enemy observation and subsequent attacks. Driver fatigue can be solved through training. Correct convoy defense

techniques can solve problems with snipers. A sound IPB will provide the information necessary to prepare for any attacks.

Summary. Frequent moves will be required for two reasons.[12] First, the BSA must remain close enough to supported units to maintain responsive support.[13] Second, for security purposes the FSB relies on frequent moves.[14] The FSB should maintain an adequate distance from the FLOT (25 to 30 kilometers) and not provide a stationary target for the enemy.[14]

The FSB has sufficient organic transportation assets to move its personnel and equipment in one lift.[15] So should other elements located in the BSA.[16] What may cause mobility problems are downloaded supplies at supply points and disabled equipment at BSA maintenance sites.[17] For all transportation requirements beyond the FSB's capability, the S2/S3 must request additional support.[18] These arrangements should be addressed in a unit's TSOP, practiced and rehearsed.

Doctrine provides the necessary guidance for movement planning. However, doctrine may be insufficient in the area of daylight moves. Experience at the NTC reveals that BSA night operations are a combat multiplier. BSAs must plan to move at night, operate at night, and defend at night to enhance their survivability.

## Fire Support

Poor Fire Support Coordination. Fire support is a key component of the BSA defense. FSBs receive fire support in accordance with pre-coordinated fire support planning efforts. In NTC rotation 94-1, the FSB received preplanned fire support for the first mission only. The brigade never addressed rear area protection fires in the brigade order. Fire support targets submitted to the brigade were not allocated to the division TACFIRE system in NTC rotations 94-2 and 94-3. The use of NAIs, TAIs, observers, target triggers, and fire support matrices were weak in NTC rotations 94-2 and 94-3. Observer responsibilities for fire support were not assigned during NTC rotations 94-4, 94-5, and 94-6.

During NTC rotation 94-6, Level III threats passed through planned targets twice without receiving indirect fires called by the BSA. The FSB S3 in NTC rotation 94-4 continued to improve fire support planning. In some instances, calls for fire were executed and enemy targets were destroyed.

FM 63-20, Forward Support Battalion, addresses field artillery support for the forward support battalion.[19] The FSB S2/S3 coordinates fires with the BSA fire support officer IAW FM 6-20-40, FM 6-20-40, Fire Support for Brigade Operations (Heavy). FM 6-20-40 outlines tactics, techniques, and procedures for brigade fire support operations.[20] Although FM 6-20-40 is oriented toward support of the heavy brigade, its principals apply to fire support for forward support battalions. FM 6-30, Observed Fire, provides procedures for calls for fire. Named Areas of Interest (NAI) and Targeted Areas of Interest (TAI) are covered in FM 34-130, Intelligence Preparation of the Battlefield. Fire support matrices are discussed in FM 6-20-40.[21]

During NTC rotations 94-1, 94-2, 94-3, and 94-6 the brigade did not incorporate the FSB's fire support request into their mission planning.[22] During NTC rotations 94-4, 94-5, and 94-6, the FSB did not assigned observer responsibilities IAW FM 6-20-40.

Fire support doctrine was not used. The evidence suggests that had fire support doctrine been used, the doctrine would have worked, and improved the survivability of the BSA.

Summary. The fire support interface between the FSB and the heavy brigade did not work well. The brigade did not provide the needed fire support. The FSB did not apply the fire support doctrine outlined in FM 63-20.[23] The OPFOR reached the rear on three occasions by bypassing or defeating the brigade forward maneuver elements. Rear area preplanned fire support could have been used to delay, disrupt, or destroy the attacking elements.

## Air Defense

Poor execution. Air defense improves BSA survivability by providing the means to disrupt, defeat, or destroy enemy air attacks. During NTC rotation 94-1 air defense assets were never allocated by the brigade for the BSA. The FSB S2/S3 was told that the forward air defense systems would support the BSA. The FSB S2/S3 was unable to obtain knowledge of the brigade air defense coverage. The BSA was attacked numerous times by enemy air.

There is existing doctrine to provide guidance on air defense support. FM 63-20, Forward Support Battalion, states that air defense assets will be positioned in the BSA if the BSA is one of the main defensive priorities.[24] Air defense operations are discussed in FM 44-3, Air Defense Artillery Employment Chaparral/Stinger.

The brigade commander determines whether to position air defense assets in the BSA based on METT-T and the IPB. During NTC rotation 94-1, air defense assets were not provided to the FSB. This was not a violation of doctrine, but the brigade staff and FSB commander must ensure that the brigade commander understands the threat to the BSA when air defense coverage is not provided.

Doctrine was applied, however the results were detrimental to the FSB. In combat, losses are sometimes necessary to ensure the success of the mission, but every measure should be undertaken to ensure these losses are minimized.

Poor Air Defense Signals. Air defense signals alert soldiers to an approaching enemy air threat. Proper recognition of air defense signals saves lives and sustains FSB fighting strength. Air defense signals were poor to non-existent during NTC rotations 94-2, 94-3, 94-4, 94-5, and 94-6. The use of external sirens/sounds as audible signals for enemy air attacks were not used routinely. Air defense signals during some of the enemy air attacks were confusing. Soldiers were unable to distinguish between audible signals for NBC, ground, or air

attacks. Many soldiers were lost due to insufficient warning of enemy air in their area. In some instances, no signals were sounded or they were not loud enough.

There is doctrine on employment of air defense signals. The employment of sound, visual, and emergency air defense signals is discussed in FM 44-3, Air Defense Artillery Employment.[25] FM 63-20, Forward Support Battalion, does not include guidance on reaction to enemy air attacks.

The existing air defense doctrine was not used. Units did not react properly to air strikes. Air defense signals were in some cases not sounded at all, or were not loud enough. Soldiers did not understand the signals.

The evidence suggests that if the doctrine outlined in FM 44-3 on employment of air defense signals had been used, the doctrine would have worked, and improved BSA survivability.

Summary. During NTC rotation 94-1, poor execution of air defense measures led to a lack of air defense coverage of the BSA. Poor air defense signals during NTC rotations 94-2, 94-3, 94-4, 94-5, and 94-6, hampered FSB operations and caused needless casualties. These problems can be solved through the correct usage of the existing doctrine found in FM 44-3.

### Mobility, Counter-mobility, Survivability

Poor planning and execution. The availability of material to construct fighting positions was very limited during NTC rotations 94-1, 94-2, 94-3, 94-4, and 94-6. Command emphasis on mobility, counter-mobility, and survivability operations was lacking in NTC rotations 94-2, 94-3, and 94-4. Construction of obstacles can improve BSA survivability by impeding enemy movement. Obstacles were used very sparingly during NTC rotations 94-2, 94-3, and 94-4. Overhead cover was very limited during NTC rotations 94-2 and 94-4.

There is existing doctrine on construction of fighting positions and obstacles. FM 63-20, Forward Support Battalion, provides guidance on the employment of fighting positions.[26] FM 63-20 also discusses the employment of obstacles.[27] The FSB S4 is responsible for internal logistics, which includes obtaining the necessary class IV materials to ensure force protection.

Existing doctrine on construction of fighting positions and obstacles was not used. Inadequate materials were available for construction of fighting positions. Obstacles were not employed in accordance with FM 63-20.

The evidence suggests that had existing doctrine on mobility, counter-mobility, and survivability been used, the doctrine would have worked, and would improved BSA survivability.

Poor fighting positions. Construction of fighting positions and bunkers improve BSA survivability by providing shelter from enemy attacks. Fighting positions were not dug to standard during all of the six NTC rotations. The SEE engineer vehicle was allocated for FSB use to dig fighting and survivability positions during NTC rotations 94-1 and 94-6. However, it was not used to its potential. In NTC rotation 94-2, companies did not continuously coordinate and improve their fighting positions.

There is doctrine on the proper construction of fighting positions. FM 63-20, Forward Support Battalion, describes the employment of fighting positions.[28] FM 5-103, Survivability, provides detailed guidance on the construction of fighting positions, to include pictures and specifications.[29]

The doctrine on construction of fighting positions was not followed during all six NTC rotations.. Fighting position construction was not in accordance with FM 5-103. Although the FSBs had the use of the SEE, which dramatically improves the speed and ease of fighting

position construction, SEE usage was not well executed and scheduled by the FSB.

Existing doctrine was not given the opportunity to work. The evidence suggests that had the FSB employed existing doctrine, the doctrine would have worked, and BSA survivability would have been improved.

Poor Dispersion. Proper dispersion of FSB assets is required to prevent lucrative targeting opportunities for enemy air and ground forces. Dispersion significantly improves BSA survivability and limits damage to critical FSB resources. During NTC rotation 94-5 the FSB did not use dispersion to it advantage. Four out of the five BSA sites established during the rotation were dispersed within a 1.5 km square. This created a congested and confused battlefield and operating area for the FSB, and an alluring target for enemy OPFOR.

There is doctrine on proper BSA dispersion. FM 63-20, Forward Support Battalion, provides guidance on the usage of terrain for security purposes.[30] The size will vary with the terrain, but an area of 4 - 7 kilometers in diameter is a planning guideline for the BSA.[31]

The doctrine on BSA dispersion was not used The FSB did not establish the desired 4 - 7 kilometer frontage recommended in FM 63-20.

The evidence suggests that had the doctrine on BSA dispersion been applied, the doctrine would have worked, and improved BSA survivability.

Summary. Command emphasis was lacking on obtaining materials for construction of fighting positions and obstacles during NTC rotations 94-1, 94-2, 94-3, 94-4, and 94-6. Fighting positions were not dug to standard during all six NTC rotations. BSA dispersion was not used during NTC rotation 94-5, creating lucrative targeting opportunities for enemy air and ground forces. Existing doctrine was not applied in all instances. FSB commanders are responsible to provide command emphasis on BSA survivability. Adequate fighting positions, emplacement of obstacles, and BSA dispersion are key survivability issues for the BSA.

## Combat Service Support

None of the FSBs had security and protection problems related to their combat service support operations. This is a training and doctrine success story. During NTC rotations I observed in 1991, 1992, and 1993, FSBs had many problems providing CSS in a secure manner. CSS during this period was primarily conducted during the day. Trash disposal was a huge problem because it generated a unique signature for enemy spotter planes and provided valuable intelligence. Published lessons learned from these previous rotations have eliminated the combat service support BOS as a major contributor to poor BSA security during the six rotations examined. Doctrine has been updated to reflect these solutions.

## Battle Command

Integration of field trains. Field trains are an integral part of the BSA and should be incorporated into BSA protection efforts. The command and control of the maneuver battalion field trains elements by the FSB commander was weak during NTC rotation 94-1. The field trains were not integrated into BSA protection operations.

There is existing doctrine on the integration of the field trains into BSA operations. FM 63-20, Forward Support Battalion, states that the FSB commander is responsible for BSA security. As such, he has command and control of all elements in the BSA for defense and positioning.

The existing doctrine was not used. Field trains were not incorporated into BSA planning and protection efforts. The doctrine provided in FM 63-20 was not followed.

The evidence suggests that had the FSB commander followed existing doctrine, the doctrine would have worked, and would have improved BSA survivability.

Battle Staff Operations. The FSB staff and the brigade S4 staff form the brigade's logistics battle staff. Interaction and coordination

between these two staffs are essential for BSA protection and survivability. The FSB staff and brigade S1/S4 did not function well together during NTC rotation 94-5. These two staffs did not function as a battle staff. Responsibilities were not performed IAW doctrine. There was confusion about responsibilities that are well defined by current doctrine.

There is existing doctrine on the roles and relationships of the brigade S4 and FSB staff. FM 101-5, Staff Organization and Operations, and FM 71-3, Armored and Mechanized Infantry Brigade, describe the doctrinal roles and relationships between the FSB staff and brigade S1/S4. The brigade and FSB must educate each other on what their doctrinal ties are, and then train on them.

The existing doctrine on the roles and relationships of the brigade S4 and FSB staff was not used? During NTC rotation 94-5, the FSB staff and brigade S1/S4 staffs did not follow the existing doctrine on staff roles and relationships defined in FM 63-20, Forward Support Battalion, FM 101-5, and FM 71-3.

The evidence suggests that had the FSB and S4 staffs followed the doctrine in FM 63-20, FM 101-5, and FM 71-3, the doctrine would have worked, and BSA survivability would have improved.

Summary. The FSB and heavy brigade S1/S4 staffs did not follow existing doctrine. The two staffs were not tied together in their doctrinal roles. This created coordination problems for BSA survivability during NTC rotations 94-1 and 94-5.

## Conclusion

The evidence suggests that forward support battalions at the National Training Center do not routinely use the available doctrine to ensure their survivability on the battlefield. The problems encountered during NTC rotations 94-1 through 94-6, in six of the seven battlefield operating systems were addressed by doctrine. The evidence suggests

that had the available doctrine been applied, the problems encountered would not have occurred.

## Endnotes

[1]U.S. Army, FM 63-20, Forward Support Battalion (Washington: Department of the Army, 1990), 5-3.

[2]U.S. Army, FM 34-130, Intelligence Preparation of the Battlefield (Washington: Department of the Army, 1994), 2-1.

[3]FM 63-20, 5-3.

[4]FM 63-20, A-1.

[5]Ibid.

[6]FM 63-20, A-5.

[7]Ibid.

[8]Ibid.

[9]Ibid.

[10]Ibid.

[11]U.S. Army, FM 55-30, Army Motor Transport Units and Operations (Washington: Department of the Army, Washington, 1992), 5-1.

[12]FM 63-20, A-1.

[13]Ibid.

[14]Ibid.

[15]FM 63-20, A-2.

[16]Ibid.

[17]Ibid.

[18]Ibid.

19FM 63-20, 5-9.

[20]U.S. Army, FM 6-20-40, Fire Support for Brigade Operations (Heavy) (Washington: Department of the Army, 1989), 1-1.

[21]FM 6-20-40, D-9.

[22]FM 6-20-40, 2-1.

[23]FM 63-20, 5-9.

[24]Ibid.

[25]U.S. Army, FM 44-3, Air Defense Artillery Employment Chaparral/Stinger (Washington: Department of the Army 1984), 8-15.

[26]FM 63-20, 5-13.

[27]FM 63-20, 5-4.

[28]FM 5-103, Survivability, C3.

[29]FM 63-20, 5-13.

[30]FM 63-20, 5-4.

[31]FM 63-20, 2-4.

# CHAPTER 5

# CONCLUSIONS AND RECOMMENDATIONS

## Introduction

This chapter concludes the analysis conducted during Chapter 4 and provides recommendations and conclusions. The recommendations are arranged by the battlefield operating system framework. Each recommendation focuses on if doctrine is working. The chapter provides issues that may serve as research questions for future MMAS theses. Finally, the chapter concludes with a discussion on the merits of this study.

| | Was there existing doctrine? | Was it used? | Did it work? |
|---|---|---|---|
| Intelligence | Yes. | No. | Not used. |
| Maneuver | Yes. | No. | Not used. |
| Fire Support | Yes. | No. | Not used. |
| Air Defense | | | |
| Mobility, Counter-mobility, and Survivability | Yes. | No. | Not used. |
| Combat Service Support | Yes. | Yes. | Yes. |
| Battle Command | Yes. | No. | Not used. |

Figure 2. Analysis Matrix Table

## Brigade Support Area Protection

The evidence suggests one insurmountable fact, forward support battalions at the National Training Center do not routinely use the available doctrine to ensure their survivability on the battlefield.

The problems encountered during NTC rotations 94-1 through 94-6, were addressed by doctrine. The evidence suggests that had the available doctrine been applied, the problems encountered would not have occurred.

The evidence also suggests that the interface between the FSB and heavy brigade in terms of BSA protection, is not well executed. Doctrine defines this interface, and discusses how it is implemented. However, during the six rotations examined at the National Training Center, this interface was did not occur. Air defense, fire support, and engineer support for the BSA was not provided when requested. METT-T determines when this support can be provided; however, the brigade commander must understand the consequences of not providing the support. The BSA is an austere organization, with little combat power. Failure to provide the necessary support in the right amount, at the right time, and at the right place, reduces BSA survivability. BSA survivability did not appear to be a brigade priority.

A unit's tactical standing operating procedures (TSOP) is a unit's personal doctrine. The TSOP states those specific measures derived from doctrine that a unit will execute to accomplish a tactical mission such as BSA defense. Several of the units during the six rotations examined, did not have BSA defensive measures in their TSOPs, and developed them while at the NTC. Once developed and implemented their survivability increased significantly.

BSA protection training appears to be a major shortfall. Many protection measures such as construction of fighting positions and reaction to enemy air strikes should be implemented as battle drills.

Is current doctrine sufficient to provide adequate protection

for the forward support battalion in the brigade support area? Yes, existing doctrine does work if applied.

## Relationship to Previous Studies

Major Bellini's monograph on BSA defense discussed the use of strongpoints as a technique to bolster BSA defense. While this technique has benefits, the underlying principle of applying existing doctrine to solve problems has more merit.

## Recommendations

Intelligence. Military intelligence is the commander's eyes and ears on the battlefield. Sound military intelligence is the key component of the IPB. Forward support battalions (FSB) must get better at IPB. The examination of NTC rotations 94-1 through 94-6 reveals that the IPB process was not applied well. Sufficient guidance is available in FM 34-130 to conduct the IPB. The S2 NCO on the FSB staff is the key individual to perform the intelligence estimate and develop the FSB IPB product. The S2/S3 NCO must be familiar with existing doctrine. The lack of CSS overlays was cited as problem during NTC rotation 94-1. The enemy situation must be posted to the CSS overlay for analysis of the impact on the logistics and maneuver situation. This is a good mission for the S2 NCO, but others must also be trained in this procedure to provide redundant capability. The FSB S2/S3 must also be familiar with IPB doctrine. The S2 NCO performs this mission, but the S3 must be familiar with the doctrine in order to properly supervise and provide guidance to the S2 NCO.

Priority Intelligence Requirements (PIR) were cited as problem areas during NTC rotations 94-3 and 94-4. The PIR is the FSB commander's list of intelligence information he needs to aid in the IPB process. The PIR list must be scrutinized and contain critical intelligence needs. The brigade should incorporate these into the brigade commander's PIR and become part of his decision cycle.

A reconnaissance and surveillance (R&S) plan should be part of a FSB's TSOP, and provides additional sets of eyes for the FSB commander. The R&S plan should be coordinated through the brigade S2/S3. This is a useful IPB tool that provides a means to continually monitor the BSA's immediate surroundings. IPB affects all areas of the FSB's missions, therefore the remainder of the staff must also be conversant in IPB. FSB commanders must ensure this process is exercised and exercised well. Existing doctrine is available to focus this requirement. Existing doctrine should be used to formulate a TSOP. The TSOP should describe how the FSB gets intelligence information from the brigade, where it is received from, and what type of information to receive.

Maneuver. FSBs must be prepared to move on a 24 hour basis.[1] FM 63-20 provides the tactical guidance and FM 55-30 provides the technical guidance to support this requirement. Although the FSB has the capability to move 100% of its organic equipment and personnel, it lacks the assets to move its supplies. To sustain the heavy brigade, it is paramount to move these critical supplies each time the FSB moves. This requires precise coordination and planning. The main support battalion (MSB) doctrinally provides the needed transportation assets.[2] However, the MSB supports the entire division. In a typical division operation, the FSB may not be the number one division priority. This makes precise planning all the more critical. Coordination with the MSB and DISCOM movement control officer should be accomplished as soon as possible. The necessary transportation requirements should be known at all times. During the NTC rotations examined it was determined that the existing doctrine was not always followed. This resulted in insufficient transportation assets to move all of the FSB's equipment, personnel, and supplies. This is a significant problem for the FSB. FSB commanders must ensure that their staffs follow the guidance in doctrine, implement it, and execute it effectively.

An SOP drill should be developed and rehearsed to implement emergency/routines moves. BSA tenants should be included in the SOP.

Fire Support. FM 63-20 provides an overview of fire support planning and execution for the BSA. It discusses the key players in BSA fire support planning and how BSA fire support efforts are tied into the overall brigade fire support plan. FM 63-20 provides general guidance on calls for fire.

FM 6-20-40 dictates how fire support is provided to the heavy brigade. It lists those actions necessary to deliver rounds to a designated target. Unfortunately, although the FSB is task organized under the heavy brigade in combat, FM 6-20-40 does not recognize this relationship. It provides no detailed guidance for how FSBs receive fire support. The next version of FM 6-20-40 should address the FSB, its fire support requirements, and the interface between the heavy brigade, brigade fire support officer, and the FSB. FM 6-30-10 discusses how units execute calls for fire. This doctrine applies to all units, including FSBs, and effectively addresses how to receive this precious resource.

Heavy brigade commanders must understand the relatively minor combat power inherent in the FSB's organizational structure. They must strive to include the FSB in all of its operations. The FSB provides a valuable service to the brigade, is a combat multiplier, and should be protected at all costs.

Air Defense. Air defense remains an area that the BSA must master to ensure its survivability on today's battlefield. FM 63-20 and FM 44-3 provide sufficient guidance to effect air defense operations in the BSA. However, the interface between the heavy brigade and the FSB for air defense operations remains a weak link. As noted during the NTC rotations examined, heavy brigades do not always incorporate the ADA requests submitted by the FSBs into their air defense plans and OPORDs.

FSB commanders must make every effort to communicate the need for air defense for the BSA to the brigade commander. Brigade commanders must realize that the FSB is an important part of their wartime organization, and take steps to ensure its survival.

FSBs still do not employ the air defense signals, so vital to their survival. This is a recurring observation from NTC rotations I've observed during the period 1990 - 1992. There is sufficient doctrine available in FM 44-3 to implement these procedures. FSB personnel must take the time to read the doctrine, implement it, practice it, and rehearse it vigorously. Reaction to red air should be part of a unit's tactical SOP.

The FSB commander should ensure that every effort is made to establish the BSA as a priority for ADA support. The brigade should address ADA coverage in its OPORD and provide coverage overlays. The brigade cannot be sustained if the FSB is damaged/destroyed by air strikes.

Units should ensure that reactions to air strikes are part of the unit's tactical SOP. Reaction to red air should be part of an air defense drill that is rehearsed and practiced. Signals for red air should be part of a drill and rehearsed. Every soldier should be able to recognize the signal for an enemy air strike.

Mobility, Counter-mobility, and Survivability. While the heavy brigade can do a lot to ensure the survivability of the BSA, the primary responsibility lies with the FSB commander. Poor fighting positions can easily be resolved through training. However, this area remains a major shortfall today, as it was during NTC rotations in 1990, 1991, and 1992. Comprehensive doctrine is available in FM 5-103 to provide guidance on construction of individual fighting positions and bunkers. Initially, upon entering a new area, only hasty fighting positions should be constructed to provide minimum protection. This allows the continuation of combat service support operations. As time permits, these fighting positions should be continuously upgraded and improved until they are

built to standard, During the rotations examined, the fighting positions rarely got past the hasty fighting position stage.

FSB commanders must make construction of fighting positions a major priority. They must ensure that adequate materials are available to build a doctrinal fighting position with overhead cover, camouflage, and concealment.

Combat Service Support. The Combat Service Support BOS is no longer a major detractor to BSA protection as it was a few years ago. FSBs now routinely conduct CSS at night, and have resolved other practices that made them susceptible to discovery and subsequent destruction. Doctrine has incorporated these discoveries. FM 63-20 is routinely updated with lessons learned from the combat training centers, and other training exercises. New FSB commanders can now learn how to practice safe CSS from simply picking up and reading a copy of FM 63-20.

The CSS community must maintain their vigil in ensuring this BOS remains doctrinally sound. The emergence of split-FSB operations not covered by doctrine, but consistently trained at the NTC, promises to provide more responsive CSS to the heavy brigade. The forward logistics element (FLE) concept operates forward of the BSA, pushing critical logistics packages closer to the FEBA. Lessons learned from the other six BOS must be validated and incorporated into doctrine. The IPB should now expand to anticipate FLE operations, assessing threat levels and providing other vital intelligence to ensure FLE survival.

Battle Command. The FSB commander controls all elements residing in the BSA for security purposes. He/she must incorporate these elements into all aspects of BSA protection. Field trains elements and other BSA tenants must be incorporated into movement plans, perimeter defense, and the air defense network.

The brigade S1/S4 staff and the FSB staff are the heavy brigade commander's CSS battle staff. Chapter 7 of FM 71-3 and Chapter 3 of FM 63-20 provide sufficient guidance on how this battle staff should work. FSB and brigade S1/S4 staffs should ensure they understand the guidance

outlined in these two field manuals.

## Suggestions for Further Research

Although doctrine defines the interface between the heavy brigade and FSB in terms of BSA protection, the evidence suggests it is not well practiced. A key area for further research is Forward Support Battalion - Heavy Brigade Interface for BSA Protection. This research could cover what training occurs, or should occur to implement an effective interface for BSA protection on the battlefield.

Further research should be conducted to determine why FSBs do not adhere to doctrine during training. The research should include an analysis on the availability of doctrinal manuals to units, the knowledge of the key FSB doctrinal manuals, and the training used to implement the doctrine.

## Summary

This study sought to understand how the forward support battalion plans, prepares and executes its defense. Further, the study sought to understand how doctrine addressed BSA protection and provided an assessment of its effectiveness. Doctrine is sufficient to provide protection for the BSA. The evidence reflects the failure of the six forward support battalions to use existing doctrine to enhance their survivability.

Forward support battalions must spend more time studying BSA protection doctrine and applying it to their combat service support operations. Doctrine should be incorporated into FSB tactical SOPs. The procedures outlined in tactical SOPs should be practiced and rehearsed until they become second nature. Officer Professional Development and Non-commissioned officer Professional Development classes should be conducted to promote doctrinal awareness of BSA security issues. These efforts will enhance BSA survivability and allow for the sustainment of the supported heavy brigade.

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